PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G06K 15/12 — A2

(11) International Publication Number: WO 98/38597

(43) International Publication Date: 3 September 1998 (03.09.98)

(21) International Application Number: PCT/SE98/00347

(22) International Filing Date: 26 February 1998 (26.02.98)

(30) Priority Data:
9700742-1 28 February 1997 (28.02.97) SE

(71) Applicant (*for all designated States except US*): MICRONIC LASER SYSTEMS AB [SE/SE]; P.O. Box 3141, S-183 03 Täby (SE).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): THURÉN, Anders [SE/SE]; Torgnyvägen 21, S-183 72 Täby (SE).

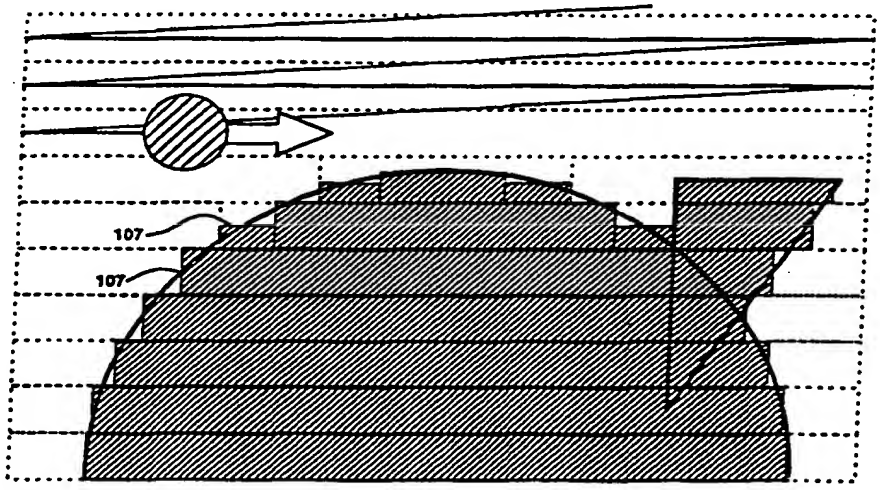
(74) Agent: AWAPATENT AB; P.O. Box 11394, S-404 28 Göteborg (SE).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: DATA-CONVERSION METHOD FOR A MULTIBEAM LASER WRITER FOR VERY COMPLEX MICROLITHOGRAPHIC PATTERNS



(57) Abstract

The invention relates to microlithography, in particular to the writing of photomasks for computer displays, microelectronic devices, and precision photoetching. It is also applicable to wafers, optical devices and a variety of electronic interconnection structures such as multichip modules. Other applications are possible, such as printing and graphics, as well as laser projection displays. In the present invention the data conversion is divided in two steps: first cutting the geometries in scan lines and simplifying them, and then finishing the conversion of the scan lines at the point of demand, i.e. in a beam processor in the driving electronics for each beam. The idea is to make as much as possible of the conversion at the latest possible point, i.e. at the beams. What is needed at an earlier stage is to separate the data for different beams and distribute them, and to simplify the data enough to make sure that the beam processors can always handle the data flow.